# Health Services for Children of School Age

IN school health services, as in the infant and preschool area, the Working Group on Service Programs recognizes wide variations in program content, stages of development, and available facilities in agencies providing school health services.

The Working Group on Service Programs recognizes also that changing concepts and new approaches are vital to the attainment of goals in health programs for school-age children. In view of the fluid state of school health services, it was considered neither desirable nor possible to prescribe specific statistical patterns applicable to all school health programs. Consequently, the proposals of the working group should be regarded as a framework within which each school health agency may develop a statistical program in accordance with its own needs.

### PREREQUISITES

The following conditions must exist if meaningful service statistics are to be developed for a program of health services for school-age children.

1. The objectives and scope of the program must be clearly defined.

2. Education personnel and health program personnel, such as physicians, nurses, nutritionists, social workers, health educators, and statisticians, should have a part in determining the

## Service Statistics

The Working Group on Service Programs of the Public Health Conference on Records and Statistics is issuing a series of documents on the collection and analysis of statistics recommended for various health department service programs. As these recommendations are completed and approved by the working group and the conference, they will be published.

An introduction to the series and the basic principles governing service statistics appeared in June 1956, page 519. These were followed in the July issue, page 705, by a statement on service statistics for the health supervision of infants and preschool children.

In developing this statement, the third in the series, the Working Group on Service Programs had the assistance of Dr. Alfred Yankauer, director, maternal and child health services of the New York State Department of Health, as medical consultant.

This report was approved by the conference membership in May 1954. It has been reproduced in mimeographed form as attachment A to document 312 by the National Office of Vital Statistics, Public Health Service, Department of Health, Education, and Welfare, Washington, D. C. Under the title "Guide to the Collection, Analysis, and Interpretation of Service Statistics in Health Services for Children of School Age," it has been endorsed by the Association of State and Territorial Directors of Local Health Services, the Council of State Directors of Public Health Nursing, and the Statistics Section and the Committee on Administrative Practice of the American Public Health Association.

Concurrently, with the development of this statement, the Committee on School Health Service Statistics of the School Health Section of the American Public Health Association was also addressing its attention to fallacies in the way school health statistics are often kept. The report of this committee was published in the *American Journal of Public Health*, May 1956, page 636. Interlocking membership of the two groups was arranged in order to assure basic consistency in the respective statements.

kinds of information needed and in developing plans for its collection. The statistician should function as a member of this professional team in initial planning of the program as well as in program operation and evaluation.

3. The information required should be clearly understood by, and should be acceptable to, medical and dental societies and other participating personnel and agencies.

4. The purpose to be served by the statistical data should be clearly specified. Reports should be prepared only to fulfill specific purposes.

5. Provision should be made in advance, during the initial planning stage, for periodic evaluation of statistical procedures.

6. Statistics developed for health services to school-age children should be correlated with statistics developed for related programs of the health department. One means toward this end is to have a records committee periodically pass on and review basic statistical forms of the several programs.

Other factors involved in effective evaluation which cannot be totaled and tabulated, such as local physicians' cooperation, availability of adequate facilities and qualified personnel, and attitudes and habits in relation to health, must be borne in mind.

## BASIC CONCEPT AND OBJECTIVES

It is generally accepted that a program of health services for school-age children should consist of three major segments: health instruction, maintenance of healthful environment, and health services. This report is confined to suggestions for the development of statistics related to health services. School health services may be provided by the health department, by the board of education, or, in some instances, by another agency.

The emphasis in school health programs has changed from merely finding and correcting physical defects to the health appraisal of children as individuals, the solution of their overall general physical and emotional problems, and the education of the child and family in healthful living.

It is agreed that health programs for children of school age should be sufficiently broad in scope to include not only services for children in public, private, and parochial schools but also services for school-age children who, for health or other reasons, are not in any school. Information should be available on the services provided for each group.

It is recognized that data on the child not registered in school may be difficult to obtain, but, when such information is available, it is desirable to include it in administering a program. Possible sources are records from public health nursing offices, crippled children's services, and special clinics.

Because of the many variations in school health programs, no standard pattern of services prevails. However, it is possible to set forth basic objectives toward which all programs are directed to a greater or lesser degree. These objectives may be stated briefly as:

1. Finding children in need of medical or educational observation, counseling, and treatment by:

Observation by teacher or nurse.
Appraisal by physician and dentist either through school health services or through some other source.
Nonmedical screening (vision, hearing, dental inspection in school, height and weight measure, health inventory) and self-referral.
Absence from school or nonregistration.

2. Followup (and continuation of followup) of child in need of care to the point of definitive diagnosis or to the point of receiving care, and giving care where it is within the scope of the program. Examples are:

Observation by teacher or nurse.
Examination by school physician.
Counseling by nurse, physician, and others that child seek service or treatment.
Examination by specialist or consultant.
Provision of immunization.
Medical or dental treatment.
Provision of special education service.
Obtaining report of service provided.
Implementation of report, if further service is indicated.

3. Minimizing the hazards of school attendance by means of communicable disease control and accident prevention.

4. Provision of emergency service, such as care of injured or sick in school.

5. Health guidance and counseling through contacts with children, parents, teachers, and community agencies.

## STATISTICAL INFORMATION

To determine whether the school health service is meeting its objective, extensive statistical data are needed for planning, administering, and evaluating the operation of the program. The following types of information are suggested for these purposes.

### For Planning a Program

Baseline data against which to measure progress in provision of health services are essential. The data suggested below for planning a program should be subdivided, if applicable, according to type of school (public, parochial, or private) which the children attend; or whether they are in hospitals or similar institutions; or whether for some other reasons they are not in school. The data should also be subdivided by agency administering the program and by type of service provided.

1. Population of school-age children by age or grade (or by ungraded classes), sex, and color (where significant).
2. Number of children in entering school population, by grade (or by ungraded classes).
3. Estimates of the future school population.
4. Socioeconomic characteristics of the population by geographic area as indicated by pertinent census data and by intercensal data such as general opinions of school principals, teachers, and nurses; special studies; welfare data; and other health department data.
5. Legal and administrative requirements affecting the school health program.
6. Morbidity and mortality data, by age and cause.
7. Information identifying existing health and medical facilities and personnel and other health resources in the school system and in the community, which would be available through the health department, board of education, other public agencies, voluntary health agencies, and private medical practitioners.

### For Administering a Program

The customary daily report of physicians and nurses, which shows the number of examinations given, conditions found, and corrections made, tells little about what has been accomplished and what needs to be done in any classroom. Not all conditions can be corrected, and not all corrections relate to conditions found upon original examination. The best the health service can do is to get the children under medical supervision. The number of corrections recorded for a current year cannot be directly related to the number of conditions found because the former may be the outcome of an examination in a preceding term or year. A statistical report of corrections, unless related to group examined, fails to reveal the actual service received. For administrative purposes, however, a summary of current information, by geographic area when indicated, is needed.

For the reasons stated, information similar to the following frequently is required, in addition to the baseline data previously enumerated for planning a program.

1. Number of children referred through observation of teacher or nurse.

Practically every school child is observed to some degree for health status by the teacher or the nurse.

2. Number of children examined, with or without the parent being present, by the school physician, by a private physician, or by some other physician; and number examined by the school dentist, by a private dentist, or by some other dentist.

The following information should be organized by the type of agency (board of education, health department, or other) and by the type of physician or dentist providing the service.

Entering children: Number found with and number found without conditions needing attention.

Reexamination of selected grades: Number of children found with and number found without conditions needing attention.

Referral examination by source (specify) of referral: Number of children found with and number found without conditions needing attention.

3. Number of children screened and referred by nonmedical procedures.

Specify type of procedure: Number referred and number not referred for further examination.

4. Distribution of children examined, by health status (with or without health needs), color, sex, and age or grade:

Number of children examined or observed.

Number of children for whom further attention is indicated.

Number of children with conditions, single or multiple, needing attention.

Number of children not needing any further attention.

Number of children, and percentage of total children examined or observed, in specified diagnostic groups.

5. Distribution of children with and without health needs by method of finding.

Breakdown according to:

Medical examinations (whether new admission, reexamination, that is, periodic additional examination, or whether referral by teacher, nurse, or parent).

Screening.

Teacher observation.

6. Types of conditions most frequently needing attention, such as nutritional, vision, cardiac, skin, ear, and orthopedic conditions, or behavior problems.

These might be listed according to:

Static handicap (such as club foot) which should be noted.

Handicap which needs attention but which is not receiving it.

Handicap which is receiving attention but which should be followed to see that attention is continued.

7. Diagnoses showing statistically significant differences observed in color, age, and sex groups, or for other important variables; for example, economic status and geographic location.

8. Statistics relating to the volume of other services, such as immunizations, dental services, first aid.

These data need not be collected routinely but may be the basis for special study.

9. Statistics of services not rendered; for example, services which are planned but which are not possible to provide, and the reasons why.

10. Statistics of followup services for children found by the several casefinding methods.

These data have to be obtained on a longitudinal basis, that is, over a period of time.

11. Counts of some educational services, such as number of nurse conferences with school staff, teacher-nurse conferences, talks to community groups.

These items do not measure quality, but they do tell what is being done with respect to selected aspects of the program. It is not necessary, however, that complete information of this kind be kept constantly. The desired information may be obtained through special studies at selected time intervals.

12. Data on a number of special services that may or may not be administered by health or education departments.

These are the services provided for handicapped children of school age and the services provided by cardiac and tuberculosis clinics. Data on such services should be correlated with regular school health statistics.

13. Summary of results of previous findings.

As a supplement to the types of current reporting listed in paragraphs 1–12, a summary of the action taken is also suggested. For a particular group examined in the previous year, a summary record would reveal whether the children who needed attention received it during the 12-month period following the examination. Summarized information of this type gives a more satisfactory picture of the accomplishments of the program and what remains to be done than does a detailed count of conditions found and corrected within a current year.

14. Analyses of absences by type of illness and length of absence.

Absentee records are a potential source of useful data for indicating preventive measures and needs for services and for reflecting acute and chronic conditions. Absentee records would be analyzed only as a special study, especially when the absences are repeated or long-term absences occasioned by illness. It is important to know the reasons for absence, to know how many conditions received attention, what are the needs of children who did not receive care, how much absenteeism could have been prevented, and to what extent absenteeism might have been shortened.

15. Data on the types and results of accidents.

Inasmuch as accidents are the leading cause of death among children of school age, accident statistics, if they are to be complete, should contain information on the nature of the accident, part of body injured, how, when, and where the accident happened (supervised or unsupervised play), treatment given, followup needed, days absent, and whether a physician was required. Accident data are valuable for planning educational programs of accident prevention and correcting the conditions which lead to the occurrence of accidents.

### For Evaluating a Program

The working group believes that analyses of results of medical examinations, case-finding services, and followup data would be more valuable than many unrelated statistics currently being accumulated. In addition, periodic analysis of the school health record of each child is desirable. It is not necessarily recommended that the entire program of school health services should be evaluated routinely. Detailed analyses are generally more useful when handled as a special study.

*Medical Examination*

Studies of records of medical examinations can provide indexes of health needs. Analyses of physical defects by type and severity of condition can provide data useful both in indicating preventive measures and needs for services. In considering medical examinations as an index of health needs, it should be borne in mind that the diagnostic findings of the school physician's examination cannot always be definitive and that his examinations may not cover that portion of the school population examined by private physicians. Moreover, records and reports of the private physician may not be comparable with those of the school physician.

*Case-Finding Services*

Information and data of the following type are useful for analyzing case-finding services:

What was the source of finding the case?

What was the type of condition found?

Was the needed service provided? (This is useful information both for evaluating the program and for indicating gaps in community services.)

How many conditions found for the first time in reexamination might have been found earlier (either by a more careful referral program or at the time of a previous examination)?

How much over-referral and under-referral resulted from nonmedical screening or teacher observation?

*Followup Data*

Information regarding followup activities and the results obtained from followup are probably the most revealing index to accomplishments of the school health program. The final results of followup, or some record as to whether the condition is in need of followup, should always be clearly stated in the basic record. At the time of a reexamination, current findings should be reviewed to determine what services the child has received as a result of the findings in the previous examination.

Information on the health status of the child, based on his condition at an interval after the initial finding together with an accounting of what has been done in the interim, is valuable for program planning and operation. This type of reappraisal after reasonable followup provides a measure of evaluation of the services provided.

A periodic review of individual records, annually if possible, is a better source of material for evaluating services performed and the results obtained than the compilation of daily reports of physicians' and nurses' activities. Records of children needing further attention should be analyzed more frequently than records of other children.

*School Health Record*

Inasmuch as the ultimate goal of a health program for school-age children is better service for the child, it is important to have a separate health record for each child. Because successful evaluation of the program is dependent on the extent to which necessary information is available, the school health record should be designed to provide information on the type of service provided and on the findings, and to give specific recommendations for further services based upon casefinding and followup, illness and accident data, and pertinent absentee data.

## TABULATION METHODS

The following methods are suggested for tabulating program statistics. They may be used in combination.

*Manual methods.* Abstracting information by manual sorting and counting individual case summary cards, or tally sheets, is applicable to small health departments, but these methods do not lend themselves easily to correlation of information.

*Marginal-punched, hand-sorted cards.* This

method permits ready analysis where the volume of service is not large enough to justify mechanical tabulation.

*Mechanical tabulation.* This method is practical in health departments with a large volume of services.

## POINTS FOR EMPHASIS

Advance planning for the collection of data is an important aspect in the accumulation of meaningful statistics. Program directors, nursing personnel, statistics staff, field personnel working with the records, school administrators, and teachers should be included in the planning. Within the program area there should be clear understanding of the definitions and need for uniformity in recording and reporting. Particularly is it important that local medical and dental societies have such understanding.

Final responsibility for decisions regarding terminology and classification would seem to rest with program directors working with the education and nursing personnel, statistics staff, and members of the field staff who use the records.

Statistical approaches to health needs of children of school age are complicated and should be undertaken as a well-defined study. For statistics to be meaningful, an adequate followup system should be provided, and a concise record should be maintained of the service rendered. In analyzing school health data, one area of information at a time should be mapped out for study. As the usefulness of the collected information is determined, specific items can be continued or dropped as indicated.

Compilation of all service statistics on a school-year basis is recommended for comparison with baseline data. Where these statistics are required for fiscal purposes, compilation on a fiscal-year basis should supplement, but not substitute for, school-year data. The working group cautions against more frequent tabulations than are justified by use.

With the trend toward having children examined by the family physician instead of by a physician employed by the school or health department, the collection of statistics on conditions needing attention becomes even more difficult. Accurate sampling studies within a school health service are believed to be more fruitful than the year-by-year accumulation of meaningless numbers of different categories of conditions. Cooperation with local and State medical societies is important in making the special studies. Special studies done on a sampling basis, when indicated, are recommended as a device to reduce the number and complexity of routine reports wherever possible. Routine reports should concentrate on minimum essentials for reflecting program activities and should avoid over-refinement of data.

The working group believes that the frequency with which specific reports should be compiled must be determined locally, depending on uses to be made of the data. It recommends that unduplicated counts of school-age children served would be most meaningful when tabulated annually, on a school-year basis if possible.

Statistical measurements of service should be interpreted in relation to baseline data, needs for services, and program objectives. Only thus can an approach be made to evaluating accomplishments of a program.

Traditionally, age breakdowns have been regarded as providing an essential basis for determination of health needs. The working group believes, however, that insofar as school health services are concerned a grade classification would be more practical administratively, inasmuch as records are usually kept by grade, and little is lost in the way of age classification. Some general information on range of ages by grades and by various types of schools should be available, however, so as to relate school health service statistics to other available statistics.

In formulating this statement, the working group has emphasized throughout the importance of data analysis as well as data collection. The group believes that, for maximum utilization of service statistics, further expansion of this phase of statistical study should be carried out through the team approach.